

CLAIMS

1. A wireless communication apparatus having a redundant configuration in which an upper apparatus inputs the same signals through a current cable circuit and a standby cable circuit, comprising:

current communication means for transmitting a signal input through the current cable circuit as a radio signal to another wireless communication apparatus through a current radio circuit; and

standby communication means for transmitting a signal input through the standby cable circuit as a radio signal to the other wireless communication apparatus through a standby radio circuit.

2. The wireless communication apparatus according to claim 1, characterized in that

the radio signals transmitted from the current communication means and the standby communication means are polarization signals having the same frequencies and different polarization directions.

3. The wireless communication apparatus according to claim 1 or 2, characterized in that:

the current communication means receives a signal transmitted from a current communication means of the other wireless communication apparatus through the current radio circuit, and transmits the received signal to the upper apparatus through the current cable circuit; and

the standby communication means receives a signal transmitted from a standby communication means of the other wireless communication apparatus through the standby radio circuit, and transmits the received signal to the upper apparatus through the standby cable circuit.

4. The wireless communication apparatus according to claim 3, characterized in that

when a fault occurs in the current system, the signal transmitted from the standby communication means to the upper apparatus is selected by the upper apparatus as a received signal from the wireless communication apparatus, thereby switching the current system to the standby system.

5. A wireless communication system which performs wireless communication between wireless communication apparatuses which have the respective redundant configurations and receive the same signals from upper apparatuses for the respective apparatuses through a current cable circuit and a standby cable circuit, characterized in that

each of the wireless communication apparatuses includes: current communication means for transmitting a signal input through the current cable circuit as a radio signal to another wireless communication apparatus through a current radio circuit; and standby communication means for transmitting a signal input through the standby cable circuit as a radio signal to the other wireless communication apparatus through a standby radio circuit.

6. The wireless communication system according to claim 5, characterized in that

the radio signals transmitted from the current communication means and the standby communication means are polarization signals having the same frequencies and different polarization directions.

7. The wireless communication system according to claim 5 or 6, characterized in that:

the current communication means receives a signal transmitted from a current communication means of the other wireless communication apparatus through the current radio circuit, and transmits the received signal to the upper apparatus through the current cable circuit, and

the standby communication means receives a signal transmitted from a standby communication means of the other wireless communication apparatus through the standby radio circuit, and transmits the received signal to the upper apparatus through the standby cable circuit.

8. The wireless communication system according to claim 7, characterized in that

when a fault occurs in a current system, the upper apparatus selects a signal from the standby communication means of the wireless communication apparatus connected to the apparatus as a received signal from the wireless communication apparatus, thereby switching from the current system to the standby system.